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FILE 'REGISTRY' ENTERED AT 13:33:15 ON 09 AUG 2001  
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STRUCTURE FILE UPDATES: 8 AUG 2001 HIGHEST RN 350791-61-6  
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FILE 'LREGISTRY' ENTERED AT 12:52:20 ON 09 AUG 2001

L1 STR

FILE 'REGISTRY' ENTERED AT 13:13:10 ON 09 AUG 2001

L2 0 S L1  
L3 SCR 1838 AND 1267  
L4 0 S L1 AND L3  
L5 SCR 2016 OR 2021 OR 2026 OR 1929 OR 1918 OR 2043 OR 1839  
L6 5 S L1 AND L3 NOT L5  
L7 STR L1  
L8 3 S L7 AND L3 NOT L5  
L9 314 S L7 AND L3 NOT L5 FUL  
SAV L9 RUT832/A

FILE 'HCA' ENTERED AT 13:24:32 ON 09 AUG 2001

L10 339088 S ELECTROLY?  
L11 151856 S BATTERY OR BATTERIES OR (ELECTROCHEM? OR ELECTROLY? OR  
L12 457390 S (52 OR 72)/SX,SC

FILE 'LCA' ENTERED AT 13:25:11 ON 09 AUG 2001

L13 1884 S ELECTROD## OR CATHOD## OR ANOD##

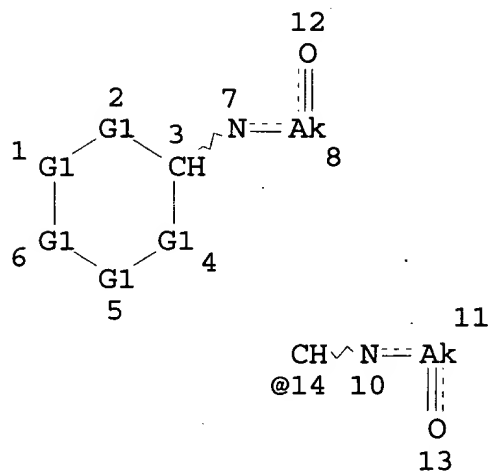
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L14 496 S L9  
L15 12 S L14 AND L10  
L16 5 S L14 AND L11  
L17 10 S L14 AND L12  
L18 12 S L14 AND L13  
L19 8 S (L16 OR L17 OR L18) NOT L15

FILE 'REGISTRY' ENTERED AT 13:33:15 ON 09 AUG 2001

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L3 SCR 1838 AND 1267  
 L5 SCR 2016 OR 2021 OR 2026 OR 1929 OR 1918 OR 2043 OR 1839  
 L7 STR



VAR G1=CH2/14  
 NODE ATTRIBUTES:  
 CONNECT IS E2 RC AT 8  
 CONNECT IS E2 RC AT 11  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC I  
 NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE  
 L9 314 SEA FILE=REGISTRY SSS FUL L7 AND L3 NOT L5

100.0% PROCESSED 65170 ITERATIONS  
 SEARCH TIME: 00.00.06

314 ANSWERS

=> file hca

FILE 'HCA' ENTERED AT 13:33:34 ON 09 AUG 2001  
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FILE COVERS 1947 - 2 Aug 2001 VOL 135 ISS 7

FILE LAST UPDATED: 2 Aug 2001 (20010802/ED)

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=> d l15 1-12 ibib abs hitstr hitind

L15 ANSWER 1 OF 12 HCA COPYRIGHT 2001 ACS

ACCESSION NUMBER: 134:240135 HCA

TITLE: **Electrolyte** composition and  
photosensitized solar cell using the  
**electrolyte** composition

INVENTOR(S): Mikoshiba, Satoshi; Sumino, Hiroyasu; Yonetsu,  
Maki; Hayase, Shuji

PATENT ASSIGNEE(S): Kabushiki Kaisha Toshiba, Japan

SOURCE: Eur. Pat. Appl., 32 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1087412	A2	20010328	EP 2000-308307	20000922

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, SI, LT, LV, FI, RO

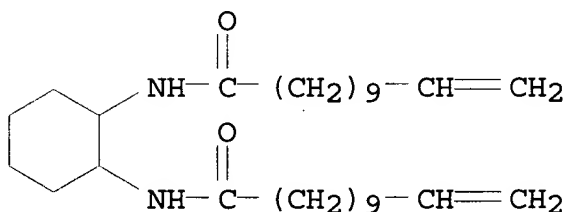
~~JP 2001160427~~ A2 20010612 JP 2000-288872 20000922  
 PRIORITY APPLN. INFO.: JP 1999-269762 A 19990924  
 OTHER SOURCE(S): MARPAT 134:240135

AB The title **electrolyte** contains .gtoreq.1 kind of an imidazolium salt selected from the group consisting of: 1-methyl-3-Pr imidazolium iodide, 1-methyl-3-iso-Pr imidazolium iodide, 1-methyl-3-Bu imidazolium iodide, 1-methyl-3-iso-Bu imidazolium iodide, and 1-methyl-3-sec-butylimidazolium iodide, a halogen-contg. compd. dissolved in the **electrolyte**; and contg. .gtoreq.1 element selected from the group consisting of N, P, and S, the compd. being capable of forming an onium salt together with the halogen-contg. compd. The **electrolyte** is characterized in that the compd. having the .gtoreq.1 element has .gtoreq.1 kind of at. group selected from the group consisting of primary amino group, secondary amino group, tertiary amino group, and -PH<sub>2</sub> group.

IT 330628-24-5D, bromoalkyl derivs.  
 (electrolyte compn. for photosensitized solar cell and method of fabricating photosensitized solar cell)

RN 330628-24-5 HCA

CN 11-Dodecenamide, N,N'-1,2-cyclohexanediylbis- (9CI) (CA INDEX NAME)



IC ICM H01G009-20  
 ICS H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 38

ST **electrolyte** compn photosensitized solar cell;  
 photoelectrochem cell **electrolyte** compn; imidazolium salt  
 photoelectrochem cell **electrolyte** compn

IT Photoelectrochemical cells  
 Solar cells  
 (electrolyte compn. for photosensitized solar cell and method of fabricating photosensitized solar cell)

IT Polybenzimidazoles  
 (electrolyte compn. for photosensitized solar cell and method of fabricating photosensitized solar cell)

IT 352-93-2, Diethylsulfide 553-26-4, 4,4'-Bipyridyl 629-03-8,  
 1,6-Dibromohexane 631-40-3, Tetrapropylammonium iodide  
 1618-26-4, Bis(methylthio)methane 2524-47-2D, bromoalkyl derivs.  
 4097-89-6, Tris(2-aminoethylamine) 6737-42-4, 1,3-  
 Bis(diphenylphosphino)propane 7681-11-0, Potassium iodide, uses  
 9003-47-8, Polyvinyl pyridine 13128-01-3D, chloroalkylcarboxylic

acid amide derivs. 13623-94-4, 1,1-Bis(methylthio)-2-nitroethylene  
 15442-91-8, 1,2,4,5-Tetrakis(bromomethyl)benzene 20461-95-4,  
 Ethyl(bis-ethylthio)acetate 25154-86-3, Polydimethylaminoethyl  
 methacrylate 25232-41-1, Poly(4-vinylpyridine) 25232-42-2,  
 Polyvinylimidazole 27721-02-4, 1,5-Bis(diphenylphosphino)pentane  
 29503-30-8 30551-89-4, Polyallylamine 30674-80-7,  
 2-Isocyanatoethylmethacrylate 53823-35-1 55553-13-4,  
 Polydiallylmethylamine 65039-05-6, 1-Methyl-3-butylimidazolium  
 iodide 72847-58-6, Terpyridine 80510-04-9 106519-56-6  
 119171-18-5, 1-Methyl-3-propylimidazolium iodide 119171-19-6,  
 1-Methyl-3-isopropylimidazolium iodide 330628-11-0,  
 1-Methyl-3-isobutyl imidazolium iodide 330628-12-1,  
 1-Methyl-3-sec-butylimidazolium iodide 330628-14-3 330628-15-4  
 330628-16-5 330628-17-6 330628-18-7 330628-19-8 330628-20-1  
 330628-21-2 330628-23-4D, iodoalkylcarboxylic acid esters.  
**330628-24-5D**, bromoalkyl derivs. 330628-25-6D, bromoalkyl  
 derivs.

(**electrolyte** compn. for photosensitized solar cell and  
 method of fabricating photosensitized solar cell)

IT 141460-19-7 330628-13-2

(**electrolyte** compn. for photosensitized solar cell and  
 method of fabricating photosensitized solar cell)

IT 7553-56-2, Iodine, uses 24969-06-0 27815-35-6, Epibromohydrin  
 polymer 37275-48-2, Bipyridyl 54972-96-2, Diiodopropane

(**electrolyte** compn. for photosensitized solar cell and  
 method of fabricating photosensitized solar cell)

IT 29256-90-4, Diaminocyclohexane 83343-61-7, Dibromohexane  
 330628-22-3D, bromoalkyl esters

(**electrolyte** compn. for photosensitized solar cell and  
 method of fabricating photosensitized solar cell)

L15 ANSWER 2 OF 12 HCA COPYRIGHT 2001 ACS

ACCESSION NUMBER: 132:95793 HCA

TITLE: **Electrolyte**, photoelectric conversion  
 device and photoelectrochemical cell

INVENTOR(S): Hiroo, Takizawa

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 57 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

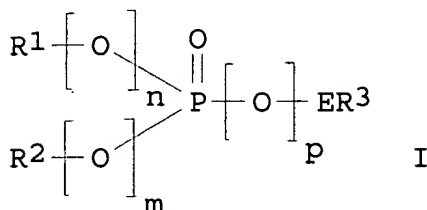
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 973181	A1	20000119	EP 1999-113723	19990713
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000036332	A2	20000202	JP 1998-219777	19980717
JP 2000100486	A2	20000407	JP 1998-286006	19980921
PRIORITY APPLN. INFO.:			JP 1998-219777	19980717

JP 1998-286006

19980921

OTHER SOURCE(S):  
GI

MARPAT 132:95793



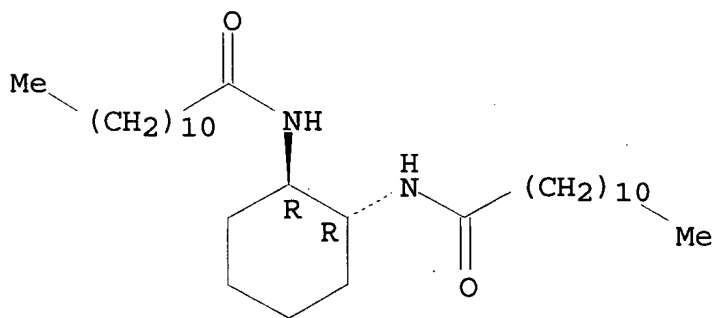
AB An **electrolyte** contains as solvent .gtoreq.1 compd. selected from a compd. represented by formula (I), where R1 and R2, which may be the same or different, each represent an alkyl group, an alkenyl group or an aryl group, R3 represents a cyano group, an alkoxy carbonyl group, an acyloxy group, a carbonamido group, a phosphoric acid group, a phosphono group, a phosphino group, a sulfonamido group, a sulfamoyl group, a sulfoxide group, a sulfone group, a sulfonyl group, a nitro group, an alkoxy group, an aryloxy group or a hydroxyl group; E represents a single bond, an alkylene group, an alkenylene group, or an arylene group; and n, m, and p represent 0 or 1, and a compd. represented by formula R4-D-E-R3 where R3 and E are as defined above; R4 represents a heterocyclic group or an alkyl or aryl group having a heterocyclic group; and D represents -O-, -OC(O)-, or -OC(O)O-.

IT 183889-37-4 254441-77-5  
(**electrolyte**, photoelec. conversion device and photoelectrochem. cell)

RN 183889-37-4 HCA

CN Dodecanamide, N,N'-(1R,2R)-1,2-cyclohexanediylbis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

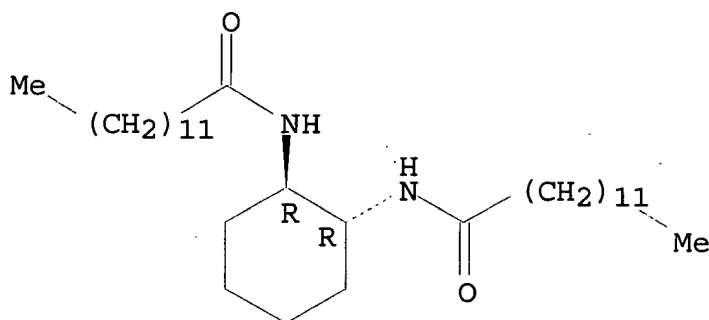


RN 254441-77-5 HCA

CN Tridecanamide, N,N'-(1R,2R)-1,2-cyclohexanediylbis- (9CI) (CA INDEX NAME)

NAME)

Absolute stereochemistry.



IC ICM H01G009-20  
ICS H01M006-16; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 38

ST solar photoelectrochem cell **electrolyte**

IT **Electrolytes**  
Gelation agents  
Photoelectric devices  
Photoelectrochemical cells  
Polymer **electrolytes**  
(**electrolyte**, photoelec. conversion device and photoelectrochem. cell)

IT Fluoropolymers, uses  
(**electrolyte**, photoelec. conversion device and photoelectrochem. cell)

IT Gels  
(**electrolyte**; **electrolyte**, photoelec. conversion device and photoelectrochem. cell)

IT 631-40-3, Tetrapropylammonium iodide 3699-67-0 4743-28-6  
10123-62-3 10377-51-2, Lithium iodide 13463-67-7, Titania, uses  
14354-67-7 14494-42-9 24937-79-9 25014-41-9 65039-05-6  
80530-93-4 99837-92-0 110067-66-8 126662-48-4 148353-34-8  
148417-29-2 148497-17-0 178555-82-3 178631-05-5 183552-29-6  
**183889-37-4** 201004-31-1 212840-68-1 220865-60-1  
220870-47-3 230307-80-9 230307-81-0 230307-84-3 230307-87-6  
233269-24-4 **254441-77-5** 254441-79-7 254441-81-1  
254441-83-3 254441-85-5 254441-86-6 254441-87-7 254453-67-3  
(**electrolyte**, photoelec. conversion device and photoelectrochem. cell)

REFERENCE COUNT: 10

REFERENCE(S): (3) Kao Corp; JP 10055820 A 1998 HCA  
(4) Mitsui Chem Inc; JP 10189039 A 1998 HCA  
(5) Mitsui Chem Inc; JP 10189040 A 1998 HCA  
(6) Papageorgiou, N; J ELECTROCHEM SOC 1996, V143(10), P3099 HCA  
(7) Sandoz Ag; EP 0462935 A 1991 HCA



## ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 3 OF 12 HCA COPYRIGHT 2001 ACS  
 ACCESSION NUMBER: 131:90194 HCA  
 TITLE: Photoelectric converters and photoelectrochemical cells thereof  
 INVENTOR(S): Shirato, Kentaro; Yanagida, Shozo; Shirai, Hiroyoshi; Hanabusa, Kenji  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 39 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11185836	A2	19990709	JP 1997-363503	19971216

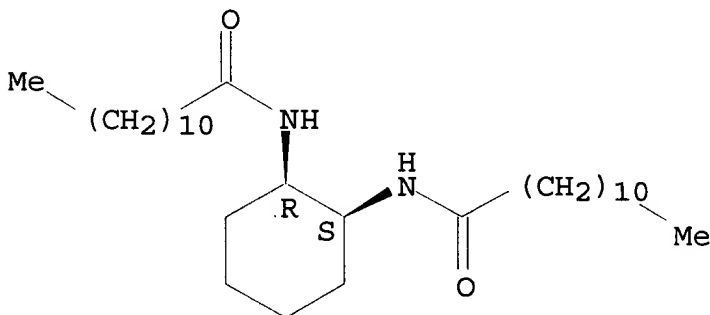
AB The photoelec. converters have a conductive substrate, a layer of semiconductor particles contg. adsorbed dye on the substrate, a gel electrolyte, and a counter electrode; where the gel electrolyte contains an electrolyte and a gelling agent having mol. wt. .ltoreq.1000. The salts are selected from metal iodide, quaternary ammonium iodide, quaternary imidazolium iodide, quaternary pyridinium iodide, metal bromide, quaternary ammonium bromide, S compds., viologen dye, and hydroquinone-quinone.

IT 230307-96-7 (electrolyte gelling agents for photoelectrochem. cells with dye adsorbed semiconductor electrodes)

RN 230307-96-7 HCA

CN Dodecanamide, N,N'-(1R,2S)-1,2-cyclohexanediylbis-, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



IC ICM H01M014-00  
 ICS H01L031-04  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 ST photoelectrochem cell pigment semiconductor particle; quaternary

onium salt **electrolyte** photoelectrochem cell; gel  
**electrolyte** photoelectrochem cell

IT **Electrolytes**  
 Photoelectrochemical cells  
 (compns. of gel **electrolytes** for photoelectrochem.  
 cells with dye adsorbed semiconductor electrodes)

IT 230308-00-6  
 (compns. of gel **electrolytes** for photoelectrochem.  
 cells \with dye adsorbed semiconductor electrodes)

IT 75-05-8, Acetonitrile, uses 96-49-1, Ethylene carbonate  
 108-32-7, Propylene carbonate 110-71-4 631-40-3 10377-51-2,  
 Lithium iodide 13463-67-7, Titania, uses 19836-78-3,  
 3-Methyl-2-oxazolidinone 230308-02-8  
 (compns. of gel **electrolytes** for photoelectrochem.  
 cells with dye adsorbed semiconductor electrodes)

IT 110067-66-8 141460-19-7 149005-03-8 205817-35-2 207347-46-4  
 219727-02-3 219727-09-0 223659-97-0 230307-77-4 230307-78-5  
 230307-79-6 230307-80-9 230307-81-0 230307-82-1 230307-83-2  
 230307-84-3 230307-85-4 230307-86-5 230307-87-6 230307-89-8  
 230308-15-3  
 (compns. of gel **electrolytes** for photoelectrochem.  
 cells with dye adsorbed semiconductor electrodes)

IT 106-14-9 105900-20-7 134589-34-7 159142-29-7 182246-24-8  
 183156-26-5 183624-78-4 189299-30-7 230307-92-3 230307-93-4  
 230307-95-6 **230307-96-7**  
 (**electrolyte** gelling agents for photoelectrochem. cells  
 with dye adsorbed semiconductor electrodes)

L15 **ANSWER 4 OF 12** HCA COPYRIGHT 2001 ACS

ACCESSION NUMBER: 126:192121 HCA

TITLE: A case of the indirect role of traces of water  
 in the electroreduction of organic substrates

AUTHOR(S): Arevalo, M. C.; Maran, F.; Severin, M. G.;  
 Vianello, E.

CORPORATE SOURCE: Departamento de Quimica Fisica, Universidad de  
 La Laguna, Tenerife, Spain

SOURCE: J. Electroanal. Chem. (1996), 418(1-2), 47-52  
 CODEN: JECHE; ISSN: 0368-1874

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

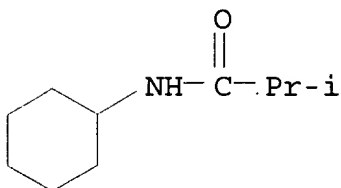
AB Adventitious water is often the main protonating agent towards the  
 basic intermediates of org. electrode redns. in dipolar  
 non-protogenic solvents. OH<sup>-</sup> ions thus formed do not generally  
 modify the redn. pattern, unless they are able to catalyze the  
 transformation of some of the species involved in the electrode  
 process. This is the case in the two-electron redn. of Ph<sub>3</sub>CSC<sub>6</sub>H<sub>4</sub>CN  
 in DMF, which involves proton transfer from residual water to the  
 redn. intermediate Ph<sub>3</sub>C<sup>-</sup>. The ensuing OH<sup>-</sup> ions catalyze hydrolysis  
 of the substrate, with formation of the corresponding amide. The  
 hydrolysis process is sufficiently fast to show its effect not only  
 during macroscale **electrolysis** but also in the much

shorter time scale of low sweep rate cyclic voltammetry. However, the reaction can easily be hampered by addn. of even mild proton donors, thus causing only minor perturbations in the reaction medium.

IT 6282-96-8, N-Cyclohexylisobutyramide  
(electrochem. redn. of cyanophenyl triphenylmethyl sulfide in DMF contg. cyclohexylisobutyramide: indirect role of traces of water in electroredn. of org. substrates)

RN 6282-96-8 HCA

CN Propanamide, N-cyclohexyl-2-methyl- (9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)  
Section cross-reference(s): 22, 25

IT 6282-96-8, N-Cyclohexylisobutyramide  
(electrochem. redn. of cyanophenyl triphenylmethyl sulfide in DMF contg. cyclohexylisobutyramide: indirect role of traces of water in electroredn. of org. substrates)

L15 ANSWER 5 OF 12 HCA COPYRIGHT 2001 ACS

ACCESSION NUMBER: 107:115118 HCA

TITLE: Electrochemistry of 2-bromo-2-methylpropanamides. Reduction mechanism and cyclocoupling reaction with amide solvents

AUTHOR(S): Maran, Flavio; Vianello, Elio; D'Angeli, Ferruccio; Cavicchioni, Giorgio; Vecchiati, Giorgio

CORPORATE SOURCE: Dip. Chim. Fis., Univ. Padova, Padua, 35131, Italy

SOURCE: J. Chem. Soc., Perkin Trans. 2 (1987), (1), 33-8  
CODEN: JCPKBH; ISSN: 0300-9580

DOCUMENT TYPE: Journal

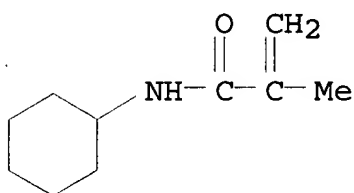
LANGUAGE: English

OTHER SOURCE(S): CASREACT 107:115118

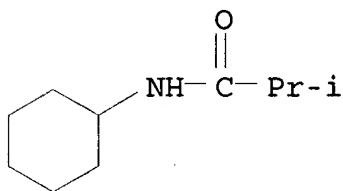
AB The electrochem. redn. of a series of secondary and tertiary .alpha.-bromoisobutyramides has been studied in dipolar aprotic solvents. A carbanion is formed at the mercury electrode as a consequence of 2-electron C-Br bond cleavage. Voltammetry and macroelectrolysis point to a self-protonation mechanism, the carbanion undergoing protonation by a parent mol. to yield the isobutyramide. Concurrently, tertiary 2-bromoamides undergo 1,2-elimination to yield an .alpha.,.beta.-unsatd. amide; secondary 2-bromoamides are deprotonated at the nitrogen atom, affording a bromo-contg. anion. The decay of the latter is strongly dependent

on the solvent and the substituent at nitrogen. In acetonitrile, elimination and fragmentation products are identified in the **electrolyzed** soln. In DMF or N,N-dimethylacetamide, the bromo-contg. anion is eventually cyclocondensed onto the carbonyl group of the amide solvent, to yield an oxazolidin-4-one deriv. Preliminary data suggest that analogous cyclocoupling reaction takes place when the redn. is carried out in 1-methyl-2-pyrrolidone.

IT 2918-67-4 6282-96-8  
 (spectra of)  
 RN 2918-67-4 HCA  
 CN 2-Propenamide, N-cyclohexyl-2-methyl- (9CI) (CA INDEX NAME)



RN 6282-96-8 HCA  
 CN Propanamide, N-cyclohexyl-2-methyl- (9CI) (CA INDEX NAME)

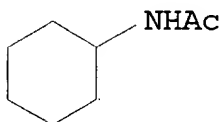


CC 22-7 (Physical Organic Chemistry)  
 Section cross-reference(s): 72  
 IT 2918-67-4 3219-55-4 4406-41-1 4774-58-7  
 6282-96-8 7472-49-3 15796-89-1 55577-65-6  
 (spectra of)

L15 ANSWER 6 OF 12 HCA COPYRIGHT 2001 ACS  
 ACCESSION NUMBER: 107:38964 HCA  
 TITLE: Anodic oxidation of alkyl isocyanates and their thio derivatives in acetonitrile  
 AUTHOR(S): Becker, James Y.; Zinger, Baruch; Yatziy, Shimon  
 CORPORATE SOURCE: Chem. Dep., Ben-Gurion Univ. Negev, Beer-Sheva, 84120, Israel  
 SOURCE: J. Org. Chem. (1987), 52(13), 2783-9  
 CODEN: JOCEAH; ISSN: 0022-3263  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Seven RNCO (R = alkyl), 5 RNCS (R = alkyl), and 2 ArNCO (Ar = aryl) were examd. electrochem. by cyclic voltammetry and anodic

controlled-potential **electrolysis** in MeCN at Pt anodes. RNCS showed considerably lower anodic potentials than RNCO. The preparative electrochem. oxidn. of RNCS depended on the nature of R. Primary RNCS afforded mainly 5-membered heterocyclic products, while tertiary ones gave largely amides (owing to .alpha.-cleavage) or isocyanates (from substitution of S for O). RNCO were oxidized at the onset of the solvent **electrolyte** region and yielded amides and carbonyl products via nucleophilic involvement of either MeCN or H<sub>2</sub>O, resp., or formed products due to radical reactions (mono-, di- and tricyanomethyl derivs.). ArNCO gave mostly polymeric products.

IT 1124-53-4P  
 (prepn. of)  
 RN 1124-53-4 HCA  
 CN Acetamide, N-cyclohexyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

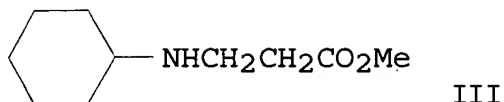


CC 22-7 (Physical Organic Chemistry)  
 IT 107-92-6P, preparation 110-59-8P 134-32-7P 623-95-0P  
 625-28-5P 630-18-2P 762-84-5P 766-93-8P 880-52-4P  
 1124-53-4P 1792-17-2P 4411-25-0P 6320-65-6P  
 32091-48-8P 64671-66-5P 64671-67-6P 64671-68-7P 98484-44-7P  
 98492-89-8P 103031-01-2P 108168-82-7P 108168-83-8P  
 108168-84-9P 108168-85-0P 108168-86-1P 108168-87-2P  
 108168-88-3P 108168-89-4P  
 (prepn. of)

L15 ANSWER 7 OF 12 HCA COPYRIGHT 2001 ACS  
 ACCESSION NUMBER: 104:68465 HCA  
 TITLE: 3-Alkoxy-3-aminopropionic acid derivatives ✓  
 INVENTOR(S): Torii, Shigeru; Iguchi, Tsutomu; Kubota, Minoru  
 PATENT ASSIGNEE(S): Osaka Yuki Kagaku Kogyo Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60156659	A2	19850816	JP 1984-11517	19840125

GI



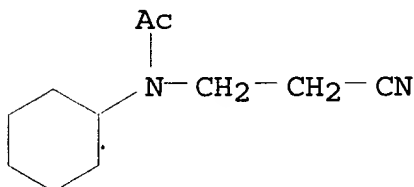
AB Title derivs.  $RR_1NCH(OR_2)CHR_3R_4$  (I; R = C3-6 alkyl,  $R_1$  = alkanoyl, alkoxy carbonyl;  $R_2$  = alkyl;  $R_3$  = H, Me;  $R_4$  = cyano,  $CO_2R_5$ ;  $R_5$  = alkyl,  $PhCH_2$ ) were prepd. by **electrolytic** oxidn. of  $RR_1NCH_2CHR_3R_4$  (II) in  $R_2OH$ . Thus, addn. reaction of cyclohexylamine with  $CH_2:CHCO_2Me$  gave 95% III which was treated with  $ClCO_2Et$  to give 92.1% II ( $R$  = cyclohexyl,  $R_1$  =  $CO_2Et$ ,  $R_3$  = H,  $R_4$  =  $CO_2Me$ ). **Electrolytic** oxidn. of II with  $Et_4N^+OSO_2C_6H_4Me^-$  in MeOH at 200 mA gave 93.0% I ( $R$  = cyclohexyl,  $R_1$  =  $CO_2Et$ ,  $R_2$  = Me,  $R_3$  = H,  $R_4$  =  $CO_2Me$ ).

IT 17526-82-8P 99763-90-3P

(prepn. and **electrolytic** oxidn. of)

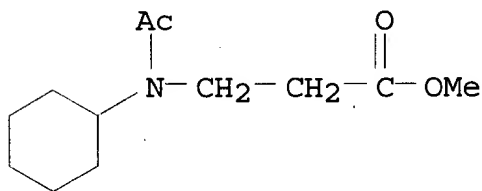
RN 17526-82-8 HCA

CN Acetamide, N-(2-cyanoethyl)-N-cyclohexyl- (8CI, 9CI) (CA INDEX NAME)



RN 99763-90-3 HCA

CN .beta.-Alanine, N-acetyl-N-cyclohexyl-, methyl ester (9CI) (CA INDEX NAME)

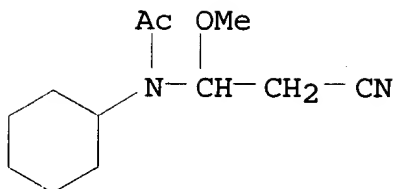


IT 98014-05-2P 99763-97-0P

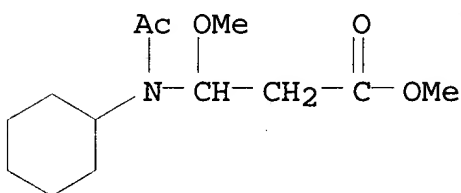
(prepn. of)

RN 98014-05-2 HCA

CN Acetamide, N-(2-cyano-1-methoxyethyl)-N-cyclohexyl- (9CI) (CA INDEX NAME)



RN 99763-97-0 HCA  
 CN Propanoic acid, 3-(acetylcyclohexylamino)-3-methoxy-, methyl ester  
 (9CI) (CA INDEX NAME)



IC ICM C07C103-48  
 ICS C07C121-43; C07C125-063; C25B003-02  
 CC 23-17 (Aliphatic Compounds)  
 ST alkoxyaminopropionate; aminoalkoxypropionate; aminopropionate  
**electrolytic** oxidn; aminopropionate alkoxylation  
 IT 4271-93-6P **17526-82-8P** 98013-99-1P 99763-87-8P  
 99763-88-9P 99763-89-0P **99763-90-3P** 99763-91-4P  
 99763-92-5P 99763-93-6P 99763-94-7P  
 (prepn. and and **electrolytic** oxidn. of)  
 IT 98014-02-9P **98014-05-2P** 99763-95-8P 99763-96-9P  
**99763-97-0P** 99763-98-1P 99763-99-2P 99764-00-8P  
~~99764-01-9P~~ 99764-02-0P  
 (prepn. of)

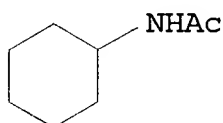
L15 ANSWER 8 OF 12 HCA COPYRIGHT 2001 ACS  
 ACCESSION NUMBER: 103:5765 HCA  
 TITLE: Electrochemical behavior of haloamides. The  
 role of additional functional groups on the  
 reduction pattern and the nature of the products  
 AUTHOR(S): Carelli, Italo; Inesi, Achille; Casadei, Maria  
 Antonietta; Di Rienzo, Barbara; Moracci, Franco  
 Micheletti  
 CORPORATE SOURCE: Dip. Ing. Chim., Univ. Studi Roma 'La Sapienza',  
 Rome, 00161, Italy  
 SOURCE: J. Chem. Soc., Perkin Trans. 2 (1985), (2),  
 179-84  
 CODEN: JCPKBH; ISSN: 0300-9580  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 103:5765

AB Electrochem. redn. of  $\text{BrCH}_2\text{CONHR}$  [ $\text{R} = \text{cyclohexyl}, \text{CH}_2\text{CCl}_2, \text{CH}(\text{OAc})\text{CCl}_3$ ] (I-III) and  $\text{AcNHCH}(\text{OAc})\text{CCl}_3$  (IV) in DMF contg.  $\text{Et}_4\text{N}^+\text{ClO}_4^-$  as supporting **electrolyte** was studied both at Hg and at vitreous C electrodes. I and II underwent 1-electron redn. to give the corresponding  $\text{AcNHR}$  and polymeric material; a proposed mechanism involves both electrochem. generated and derived carbanions,  $-\text{CH}_2\text{CONHR}$  and  $-\text{CHBrCONHR}$ , resp. The presence of other functional groups caused a marked alteration of reaction path; only products derived from electrochem. generated carbanions were obtained from III and IV.  $\text{AcNHCH}_2\text{CCl}_2$  and  $\text{AcOCH}_2\text{CONHCH}_2\text{CCl}_2$  were obtained in the macroscale **electrolysis** of III via electrode-assisted nucleophilic substitution.

IT **1124-53-4P**  
 (prepn. of)

RN 1124-53-4 HCA

CN Acetamide, N-cyclohexyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



CC 22-7 (Physical Organic Chemistry)

Section cross-reference(s): 72

IT **1124-53-4P** 34243-54-4P 96848-82-7P  
 (prepn. of)

L15 ANSWER 9 OF 12 HCA COPYRIGHT 2001 ACS

ACCESSION NUMBER: 98:130277 HCA

TITLE: N-Substituted carboxylic acid amides as acid corrosion inhibitors

AUTHOR(S): Antonyan, S. B.; Tagmazyan, N. K.; Melikyan, T. R.; Rafaelyan, D. G.; Torosyan, G. O.; Babayan, A. T.

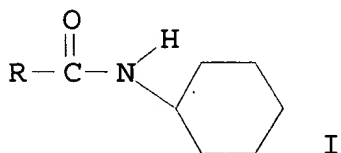
CORPORATE SOURCE: USSR

SOURCE: Deposited Doc. (1981), VINITI 4587-81, 7 pp.  
 Avail.: VINITI

DOCUMENT TYPE: Report

LANGUAGE: Russian

GI





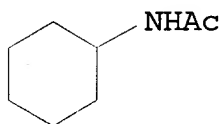
AB Anticorrosion properties were studied of carboxylic acid amides  $RCONHCH_2CH:CClMe$  (where  $R = Me, Et, Pr$ , and  $iso-Bu$ ),  $RCONHCH_2CH:CH_2$  (where  $R = Me, Et, Pr, iso-Bu, tert-Bu$ , and  $Ph$ ), and  $I$  (where  $R = Me, Et, Pr$ , and  $iso-Bu$ ) used as inhibitors of steel St.45 [37268-90-9] corrosion in 4% HCl at room temp., the inhibitor amt. being 1-3 g/L **electrolyte**. Polarization curves showing cathodic H evolution in the presence of the amides (3 g/L) are given. The addn. of the amides significantly inhibited cathodic H evolution. Thus, at 0.15 V cathodic polarization, they decreased the H evolution rate by a factor of 4-60. The highest inhibitive effect was obsd. in the presence of  $iso-BuCONHCH_2CH:CClMe$  [85091-61-8]. With increasing concn. of the latter from 1 to 3 g/L, the inhibitive effect increased.

IT 1124-53-4 1126-56-3 1132-41-8  
1199-87-7

(corrosion inhibition of steel by, in hydrochloric acid, cathodic hydrogen evolution in relation to)

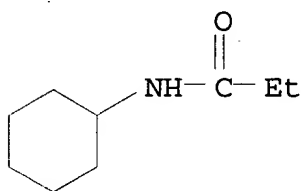
RN 1124-53-4 HCA

CN Acetamide, N-cyclohexyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



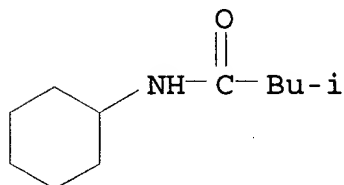
RN 1126-56-3 HCA

CN Propanamide, N-cyclohexyl- (9CI) (CA INDEX NAME)

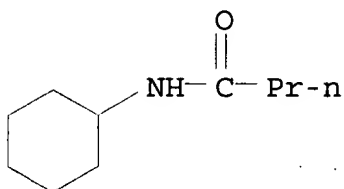


RN 1132-41-8 HCA

CN Butanamide, N-cyclohexyl-3-methyl- (9CI) (CA INDEX NAME)



RN 1199-87-7 HCA  
 CN Butanamide, N-cyclohexyl- (9CI) (CA INDEX NAME)



CC 55-10 (Ferrous Metals and Alloys)  
 IT 692-33-1 1124-53-4 1126-56-3 1132-41-8  
 1199-87-7 2978-29-2 10283-95-1 16250-39-8 60205-24-5  
 63122-38-3 78693-60-4 85091-61-8 85091-62-9 85091-63-0  
 (corrosion inhibition of steel by, in hydrochloric acid, cathodic  
 hydrogen evolution in relation to)

L15 ANSWER 10 OF 12 HCA COPYRIGHT 2001 ACS  
 ACCESSION NUMBER: 76:67473 HCA  
 TITLE: Electrochemical mercuration or organic compounds  
 INVENTOR(S): Weinberg, Norman L.  
 PATENT ASSIGNEE(S): American Cyanamid Co.  
 SOURCE: U.S., 4 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3629080	A	19711221	US 1969-865951	19691013

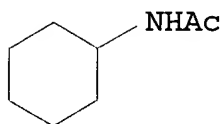
AB An electrochem. cell which converts an Hg anode to Hg<sup>2+</sup> and Hg<sub>2</sub><sup>2+</sup> was used for prepg. organomercuric derivs. of an unsatd. org. compd. Olefins with hydroxy, amido, alkoxy, and other functions may be used. A frit-sepd. cell was used with a C cathode, Hg pool anode, and SCE. NaOAc (1M) in H<sub>2</sub>O contg. 10% HOAc, was used as the anode **electrolyte** to which 4 ml (0.05 mole) of cyclohexene was added. Controlled potential **electrolysis** (25.degree., N<sub>2</sub> atm., magnetically stirred) was conducted at + 0.8 V vs. SCE until 6.67 .times. 10<sup>-2</sup> F had been passed. A sticky solid ppt., formed during the reaction, was filtered off and gave a black deposit on treatment with 10% NaOH soln., indicating Hg and Hg(I) salts. This solid was filtered, the filtrate treated with a little NaCl soln., and CO<sub>2</sub> gas was bubbled through the soln. The ppt. of colorless solid 0.9 g, m.p. 150-4.degree., was crystd. once from acetone (10 ml), m.p. 153-3.6.degree.. Anal. calcd. (found) for C<sub>6</sub>H<sub>11</sub>HgClO was as follows: C 21.1 (21.45); H 3.27 (3.26); Cl 10.6 (9.15).

IT 1124-53-4P

(manuf. of, electrochem.)

RN 1124-53-4 HCA

CN Acetamide, N-cyclohexyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC C07B

NCL 204072000

CC 77 (Electrochemistry)

IT 617-94-7P 1124-53-4P 21113-07-5P

(manuf. of, electrochem.)

L15 ANSWER 11 OF 12 HCA COPYRIGHT 2001 ACS:

ACCESSION NUMBER: 74:70881 HCA

TITLE: Anodic oxidation of organic compounds. VII.  
Electrochemical mercuration of organic compounds

AUTHOR(S): Weinberg, Norman L.

CORPORATE SOURCE: Cent. Res. Div., Amer. Cyanamid Co., Stamford,  
Conn., USASOURCE: Tetrahedron Lett. (1970), (55), 4823-4  
CODEN: TELEAY

DOCUMENT TYPE: Journal

LANGUAGE: English

GI For diagram(s), see printed CA Issue.

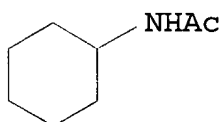
AB 2-Chloromercurio-1-acetamidocyclohexane (I), -1-hydroxycyclohexane,  
and -1-methoxycyclohexane are prep'd. by the **electrolysis**  
of cyclohexene at a Hg pool anode. I is converted to the  
dicyclohexylmercury deriv. (II) and N-acetylcyclohexylamine under  
different conditions. The anode and cathode are sep'd. in the  
mercuration [N.L.Weinberg and T.B.Reddy (1968)].

IT 1124-53-4P

(prepn. of, electrochem.)

RN 1124-53-4 HCA

CN Acetamide, N-cyclohexyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



CC 77 (Electrochemistry)

IT 1123-76-8P 1124-53-4P 21113-07-5P 29682-55-1P  
31718-62-4P

(prepn. of, electrochem.)

L15 ANSWER 12 OF 12 HCA COPYRIGHT 2001 ACS

ACCESSION NUMBER: 70:10824 HCA

TITLE: Formation of N-acylamides during the **electrolysis** of organic acids in an acetonitrile solution. Evidence for rearrangements. I. Aliphatic acids

AUTHOR(S): Kornprobst, Jean Michel; Laurent, Andre; Laurent-Dieuzeide, Eliane

CORPORATE SOURCE: Lab. Chim. Org. III, Fac. Sci. Lyon, Villeurbanne, Fr.

SOURCE: Bull. Soc. Chim. Fr. (1968), (9), 3657-63

CODEN: BSCFAS

DOCUMENT TYPE: Journal

LANGUAGE: French

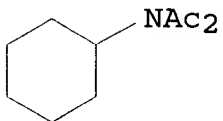
AB The **electrolysis** of  $\text{RCO}_2\text{H}$  (I), where R = Me, Et, Pr, iso-Pr, Bu, iso-Bu, sec-Bu, and cyclohexyl, was examd. in MeCN solns. contg. 4%  $\text{H}_2\text{O}$ . I contg. primary or secondary R group gave preferably asym.  $\text{AcNR}'\text{COR}$  (II). I (R = tert-Bu) (III) gave no II, 95%  $\text{AcNHBu-tert}$  (IV), and 5%  $\text{tert-BuCONHBu-tert}$ . In I (R = Pr or Bu) the group linked to N rearranged by H migration, while in I (R = iso-Bu) 2 rearrangement possibilities occurred by migration of Me or H. The **electrolysis** of a mixt. of III or I (R = sec-Bu) (V) and  $\text{HOAc}$  in MeCN soln. gave 100% IV in the case of III and a mixt. contg. sec-BuNacCOBu-sec 16, sec-BuNac2 83, and  $\text{AcNHBu-sec}$  1% in the case of V. Addn. and rearrangement mechanisms are discussed.

IT 3026-98-0P

(prepn. of)

RN 3026-98-0 HCA

CN Acetamide, N-acetyl-N-cyclohexyl- (9CI) (CA INDEX NAME)



CC 22 (Physical Organic Chemistry)

ST **electrolysis** org acids; acids **electrolysis** org; acyl amides via acids; amides via acids acyl; rearrangements **electrolysis** acidsIT 75-05-8, uses and miscellaneous  
(**electrolysis** of carboxylic acid in)IT 64-19-7, reactions 75-98-9 79-09-4, reactions 79-31-2  
98-89-5 107-92-6, reactions 109-52-4, reactions 116-53-0  
503-74-2(**electrolysis** of, in acetonitrile)IT 686-96-4P 1189-05-5P 3026-98-0P 19264-30-3P  
21855-93-6P 21855-94-7P 21855-95-8P 21855-96-9P 21855-97-0P  
21855-98-1P 21855-99-2P 21856-00-8P  
(prepn. of)

=&gt; d 119 1-8 ibib abs hitstr hitind

L19 ANSWER 1 OF 8 HCA COPYRIGHT 2001 ACS  
 ACCESSION NUMBER: 133:351158 HCA  
 TITLE: Manufacture of polymer moldings with high porosity using gelation agents  
 INVENTOR(S): Yamamura, Takashi; Yamamoto, Kazunari; Ei, Kenji; Shirai, Hirofusa; Kimura, Mutsumi; Sakakibara, Yasuhiko  
 PATENT ASSIGNEE(S): Nitto Denko Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

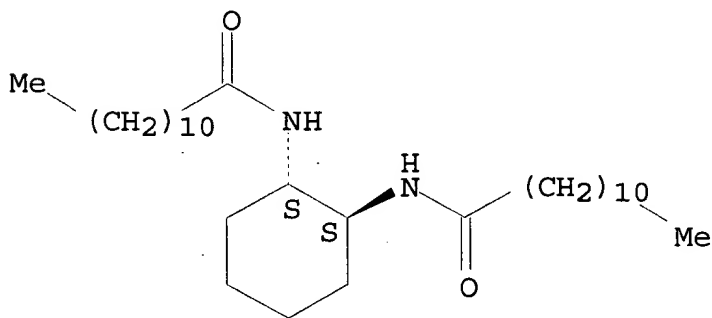
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000319434	A2	20001121	JP 1999-127568	19990507

AB The moldings, useful for filters, **battery** separators, etc., are manufd. by thermally dissolving polymers to solvents, gelating the solns. with gelation agents, and immersing to poor solvents. Thus, 200 g polystyrene was dissolved to PhMe at 80.degree., treated with Z-L-Ile-NHC18H37, extd. with hexane several times, and dried to give a test piece showing porosity 84% and pore size 5-10 mm.

IT 220078-20-6D, trans-1,2-Bis(dodecanoylamino)cyclohexane, derivs.  
 (gelation agent; manuf. of porous moldings using gelation agents)

RN 220078-20-6 HCA  
 CN Dodecanamide, N,N'-(1R,2R)-1,2-cyclohexanediylbis-, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



IC ICM C08J009-00  
 CC 38-2 (Plastics Fabrication and Uses)

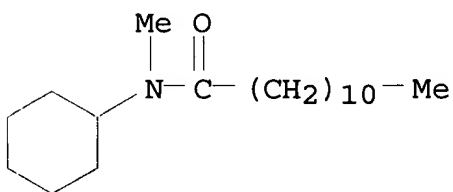
ST polystyrene molding high porosity **battery** separator;  
 porous polymethyl methacrylate cyclohexanediamine gelation agent;  
 cyclohexane gelator solvent extn cellular polyoxyethylene  
 IT 212840-68-1 **220078-20-6D**, trans-1,2-  
 Bis(dodecanoylamino)cyclohexane, derivs.  
 (gelation agent; manuf. of porous moldings using gelation agents)

L19 ANSWER 2 OF 8 HCA COPYRIGHT 2001 ACS  
 ACCESSION NUMBER: 132:350161 HCA  
 TITLE: Tertiary fatty amides as diesel fuel substitutes  
 AUTHOR(S): Serdari, Aikaterini; Lois, Euripides; Stournas,  
 Stamoulis  
 CORPORATE SOURCE: Laboratory of Fuel Technology and Lubricants,  
 Department of Chemical Engineering, National  
 Technical University of Athens, Athens, 157 73,  
 Greece  
 SOURCE: Int. J. Energy Res. (2000), 24(5), 455-466  
 CODEN: IJERDN; ISSN: 0363-907X  
 PUBLISHER: John Wiley & Sons Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB This paper presents exptl. results regarding the impact of adding  
 different tertiary amides of fatty acids to mineral diesel fuel; an  
 assessment of the behavior of these compds. as possible diesel fuel  
 extenders is also included. Measurements of cetane no., cold flow  
 properties (cloud point, pour point and CFPP), d., kinematic  
 viscosity, flash point and distn. temps. are reported, while initial  
 expts. concerning the effects on particulate emissions are also  
 described. Most of the examd. tertiary fatty amides esters have  
 very good performance and they can be easily prepd. from fatty acids  
 (biomass). Such compds. or their blends could be used as mineral  
 diesel fuel or even fatty acid methylesters (FAME, biodiesel)  
 substitutes or extenders.

IT **269749-62-4**  
 (impact of adding different tertiary amides of fatty acids to  
 mineral diesel fuel and behavior of these compds. as diesel fuel  
 extenders)

RN 269749-62-4 HCA  
 CN Dodecanamide, N-cyclohexyl-N-methyl- (9CI) (CA INDEX NAME)



CC 52-1 (Electrochemical, Radiational, and Thermal Energy  
 Technology)  
 Section cross-reference(s): 51, 59

IT 106-18-3, Butyl laurate 106-33-2, Ethyl laurate 111-06-8, Butyl palmitate 628-97-7, Ethyl palmitate 2602-61-1, Decanamide, N,N-diethyl- 2664-42-8 3015-65-4, Tetradecanamide-N,N-dimethyl 3352-87-2, Diethyl lauramide 3886-90-6, Octadecanamide, N,N-dimethyl 3886-91-7, Hexadecanamide-N,N-dimethyl 5299-67-2 5338-53-4 5343-44-2, Dodecanamide, N,N-dibutyl 5831-80-1, 9-Octadecenamide, N,N-dibutyl-, (9Z)- 5831-82-3 5831-87-8, Hexadecanamide-N,N-dibutyl 13653-23-1, 9-Octadecenamide, N,N-diethyl-, (9Z)- 14433-76-2 16958-85-3, Octyl palmitate 57303-20-5, Tetradecanamide-N,N-diethyl 57303-21-6, Hexadecanamide-N,N-diethyl 85879-58-9 112724-96-6 151922-01-9, Dodecanamide, N,N-dioctyl 269749-61-3 **269749-62-4** 269749-63-5 269749-64-6 269749-65-7 269749-66-8  
(impact of adding different tertiary amides of fatty acids to mineral diesel fuel and behavior of these compds. as diesel fuel extenders)

## REFERENCE COUNT:

15

## REFERENCE (S) :

- (1) Bailey, B; SAE Paper 972978 1997
- (2) European Commission DG XVII; Draft Mandate to CEN for biodiesel standardization, Doc 29/96 EN, M/245 1996
- (3) Francese, D; Proceedings of the Ninth International Symposium on Alcohol Fuels 1991, P984
- (4) Gouli, S; Extended Abstracts of the 2nd International Symposium on Advanced Energy Conversion Systems and Related Technologies (RAN 98) 1998, P224
- (13) Stournas, S; Journal of the American Oil and Chemical Society 1995, V72, P433 HCA

ALL CITATIONS AVAILABLE IN THE RE FORMAT

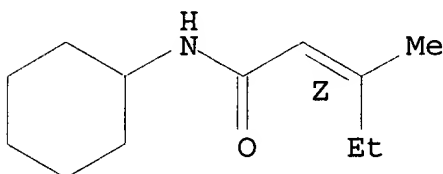
L19 ANSWER 3 OF 8 HCA  
ACCESSION NUMBER:  
TITLE:

COPYRIGHT 2001 ACS  
128:287664 HCA  
Electrochemically induced Favorskii rearrangement. .alpha.,.beta.-Unsaturated amides and esters in the electrochemical reduction of polyhaloketones  
AUTHOR(S): Inesi, A.; Rossi, L.; Feroci, M.; Rizzuto, M.  
CORPORATE SOURCE: Dipartimento di Chimica, Universita degli Studi, I-67040, Italy  
SOURCE: New J. Chem. (1998), 22(1), 57-61  
CODEN: NJCHE5; ISSN: 1144-0546  
PUBLISHER: Royal Society of Chemistry  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Electrochem. reduced polyhaloketones react with amines and phenols affording the corresponding .alpha.,.beta.-unsatd. amides and esters in moderate yields. The formation of .alpha.-iminoketones and .alpha.-diimines (main products of the chem. reaction) is completely avoided. The stereochem. of the .alpha.,.beta.-unsatd. products is independent of the nature of the nucleophiles and haloketones.

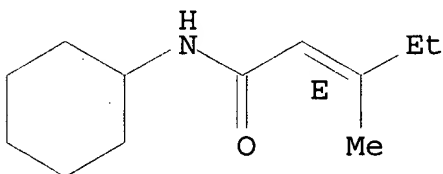
IT 205933-63-7P, (Z)-N-Cyclohexyl-3-methyl-2-pentenamide  
 205933-64-8P, (E)-N-Cyclohexyl-3-methyl-2-pentenamide  
 (electrochem. induced Favorskii rearrangement: unsatd. amides and  
 esters in electrochem. redn. of polyhaloketones in presence of  
 amines and phenols)  
 RN 205933-63-7 HCA  
 CN 2-Pentenamide, N-cyclohexyl-3-methyl-, (2Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 205933-64-8 HCA  
 CN 2-Pentenamide, N-cyclohexyl-3-methyl-, (2E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



CC 72-2 (Electrochemistry)

Section cross-reference(s): 22, 25

IT 205933-61-5P, (Z)-N-Benzyl-3-methyl-2-pentenamide 205933-62-6P,  
 (E)-N-Benzyl-3-methyl-2-pentenamide 205933-63-7P,  
 (Z)-N-Cyclohexyl-3-methyl-2-pentenamide 205933-64-8P,  
 (E)-N-Cyclohexyl-3-methyl-2-pentenamide 205933-65-9P,  
 (Z)-N-Benzyl-N-methyl-3-methyl-2-pentenamide 205933-66-0P,  
 (E)-N-Benzyl-N-methyl-3-methyl-2-pentenamide 205933-67-1P,  
 (Z)-N-(3-Phenylpropyl)-3-methyl-2-pentenamide 205933-68-2P,  
 (E)-N-(3-Phenylpropyl)-3-methyl-2-pentenamide 205933-69-3P,  
 (Z)-4-Methoxyphenyl 3-methyl-2-pentenoate 205933-70-6P,  
 (E)-4-Methoxyphenyl 3-methyl-2-pentenoate 205933-71-7P,  
 (Z)-3,5-Dimethylphenyl 3-methyl-2-pentenoate 205933-72-8P,  
 (E)-3,5-Dimethylphenyl 3-methyl-2-pentenoate  
 (electrochem. induced Favorskii rearrangement: unsatd. amides and  
 esters in electrochem. redn. of polyhaloketones in presence of  
 amines and phenols)

L19 ANSWER 4 OF 8 HCA COPYRIGHT 2001 ACS

ACCESSION NUMBER: 119:138582 HCA

TITLE: Electrochemical and stereochemical investigation



on the mechanism of the decay of 2-halo amide anions. The intermediacy of aziridinones

AUTHOR(S): Maran, Flavio

CORPORATE SOURCE: Dip. Chim. Fis., Univ. Padova, Padua, 35131, Italy

SOURCE: J. Am. Chem. Soc. (1993), 115(15), 6557-63  
CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

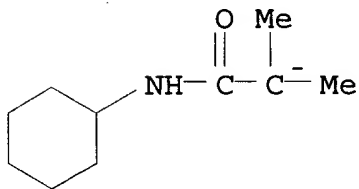
LANGUAGE: English

AB 2-Halo amide anions can be generated by electroredn. of NH-protic 2-halo amides through the self-protonation mechanism. Such anions are labile species whose decay, in the case of 2-bromo amide anions, competes with their electroredn. in the voltammetric time scale. Using the appropriate voltammetric treatment, the first-order rate const. of the decay has been detd. for a series of representative 2-bromo amides. The lability orders point to an SN2-type intramol. substitution of bromine and thus to the formation of a three-membered ring. Stereochem. information on the decay has been gained using a chiral nonracemic 2-bromopropanamide, an amine nucleophile, and DMF as the solvent. The direct substitution by the amine proceeds by an SN2 reaction, as shown by the inversion of configuration at the .alpha.-carbon and voltammetric anal. Conversely, when the reaction is triggered by electroredn., the decay of the 2-bromo amide anion eventually leads to the formation of the retention product 2-amino amide together with other optically active products, namely two diastereomeric oxazolidin-4-ones, arising by cyclocondensation with DMF, and cis-2,5-dioxopiperazine. Anal. of the electrochem. and stereochem. results indicates that the mechanism of the base-promoted reactions of 2-halo amides proceeds through the transient formation of the corresponding aziridinone, whether the latter is isolable or not. Formation of the aziridinone takes place by concerted intramol. nucleophilic substitution of bromide ion within the 2-halo amide anion. The transient aziridinone behaves not only as the product-detg. intermediate but also as a species capable of reacting with suitable partners under remarkable enantioselectivity control.

IT 149578-71-2P  
(formation and decay kinetics of)

RN 149578-71-2 HCA

CN Propanamide, N-cyclohexyl-2-methyl-, ion(1-) (9CI) (CA INDEX NAME)



CC 22-7 (Physical Organic Chemistry)  
Section cross-reference(s): 72

IT 149578-67-6P 149578-68-7P 149578-69-8P 149578-70-1P  
149578-71-2P 149578-72-3P 149578-73-4P 149578-74-5P  
149578-75-6P

(formation and decay kinetics of)

L19 ANSWER 5 OF 8 HCA COPYRIGHT 2001 ACS

ACCESSION NUMBER: 105:78558 HCA

TITLE: A new combined oxidizing reagent system,  
Fe(CH<sub>3</sub>CN)<sub>6</sub><sup>3+</sup>-IO<sub>4</sub><sup>-</sup>: oxidation of paraffin  
hydrocarbons

AUTHOR(S): Kotani, Eiichi; Kobayashi, Shigeki; Ishii, Yoko;  
Tobinaga, Seisho

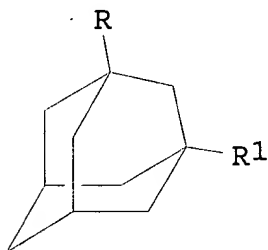
CORPORATE SOURCE: Showa Coll. Pharm. Sci., Tokyo, 154, Japan  
SOURCE: Chem. Pharm. Bull. (1985), 33(11), 4680-4  
CODEN: CPBTAL; ISSN: 0009-2363

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 105:78558

GI



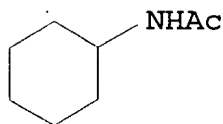
AB Combined oxidizing reagent systems of Fe(AN)<sub>6</sub>(ClO<sub>4</sub>)<sub>3</sub> (AN = acetonitrile) with halogen oxyacids were investigated. In particular, reactions of paraffin hydrocarbons with a combined reagent system of Fe(AN)<sub>6</sub><sup>3+</sup>-IO<sub>4</sub><sup>-</sup> were explored because of the high reactivity of this system in the oxidn. of adamantane. Thus, adamantane (I, R = R<sub>1</sub> = H) was treated with Ac<sub>2</sub>O, Fe(ClO<sub>4</sub>)<sub>3</sub>, and NaIO<sub>4</sub> in MeCN to give 96% (I, R = AcNH, R<sub>1</sub> = H) and 4% (I, R = AcNH, R<sub>1</sub> = AcO). Oxidns. of bornane, norbornane, cyclohexane, and n-hexane likewise gave the corresponding acetamides and acetates. These results show that the title reagent system can efficiently oxidize org. substrates which have onset potentials of **anodic** current of ca. 2.7 V. vs. satd. calomel **electrode**.

IT 1124-53-4P

(prepn. of)

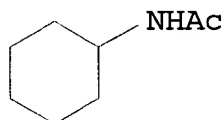
RN 1124-53-4 HCA

CN Acetamide, N-cyclohexyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



CC 24-8 (Alicyclic Compounds)  
 IT 622-45-7P 880-52-4P 935-56-8P **1124-53-4P** 5953-49-1P  
 7346-41-0P 16538-02-6P 40780-64-1P 67282-70-6P 67815-08-1P  
 103675-19-0P 103675-20-3P  
 (prepn. of)

L19 ANSWER 6 OF 8 HCA COPYRIGHT 2001 ACS  
 ACCESSION NUMBER: 96:161910 HCA  
 TITLE: **Anodic** oxidation of heterocumulenes in acetonitrile  
 AUTHOR(S): Becker, James Y.; Zinger, B.  
 CORPORATE SOURCE: Dep. Chem., Ben-Gurion Univ. Negev, Beer-Sheva, Israel  
 SOURCE: J. Am. Chem. Soc. (1982), 104(8), 2327-9  
 CODEN: JACSAT; ISSN: 0002-7863  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The **anodic** oxidn. of cumulenes possessing an N:C:Y bond (Y = N, O, S; e.g., dicyclohexylcarbodiimide) was studied for the first time. All compds. undergo .alpha. cleavage predominantly, similar to what was previously reported (Becker, J.; et al, 1975) for the **anodic** oxidn. of ketones and alkyl halides.  
 IT **1124-53-4P**  
 (formation of, from **anodic** oxidn. of dicyclohexylcarbodiimide)  
 RN 1124-53-4 HCA  
 CN Acetamide, N-cyclohexyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



CC 22-7 (Physical Organic Chemistry)  
 ST **anodic** oxidn hetero cumulene; carbodiimide **anodic** oxidn; isocyanate cyclohexyl **anodic** oxidn; isothiocyanate cyclohexyl **anodic** oxidn  
 IT Cumulenes  
 (hetero-, **anodic** oxidn. of)  
 IT 525-06-4 538-75-0 691-24-7 1122-82-3 3173-53-3  
 (**anodic** oxidn. of)  
 IT 119-61-9P, preparation  
 (formation of, from **anodic** oxidn. of di-Ph ketene)

IT 762-84-5P 5336-24-3P  
 (formation of, from **anodic** oxidn. of  
 di-tert-butylcarbodiimide)

IT 108-94-1P, preparation **1124-53-4P** 2387-23-7P  
 (formation of, from **anodic** oxidn. of  
 dicyclohexylcarbodiimide)

L19 ANSWER 7 OF 8 HCA COPYRIGHT 2001 ACS  
 ACCESSION NUMBER: 96:68078 HCA  
 TITLE: The effect of electrochemically generated  
 positive bromine species in acetonitrile on the  
 cleavage of carbon-bromine and carbon-chlorine  
 bonds

AUTHOR(S): Becker, James Y.; Zemach, Dvora  
 CORPORATE SOURCE: Dep. Chem., Ben-Gurion Univ. Negev, Beer Sheva,  
 Israel

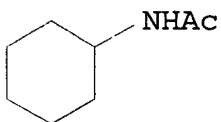
SOURCE: J. Chem. Soc., Perkin Trans. 2 (1981), (2),  
 336-40  
 CODEN: JCPKBH; ISSN: 0300-9580

DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB The fate of Br formed from C-Br cleavage during **anodic**  
 oxidn. of alkyl bromides in MeCN on Pt was studied  
 potentiostatically. Pos. Br species are formed which are  
 potentially reactive towards alkyl bromides, giving similar products  
 to those obtained by direct **anodic** oxidn. of the same  
 bromides. These pos. Br species are energetically sufficient to  
 break C-Cl bonds in alkyl chlorides; these compds. do not undergo  
 C-Cl fission by direct **anodic** oxidn. The Br species  
 involved is probably [(MeCN)2Br]+ Br3- or (MeCNBr)+ Br3-; the  
 mechanism for its formation is discussed.

IT **1124-53-4P**  
 (prepn. of, by reaction of haloalkane with acetonitrile bromonium  
 ion)

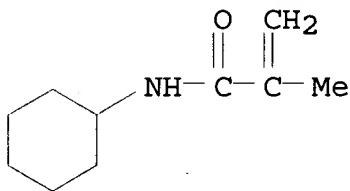
RN 1124-53-4 HCA  
 CN Acetamide, N-cyclohexyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



CC 22-7 (Physical Organic Chemistry)  
 Section cross-reference(s): 72

IT 762-84-5P 1118-69-0P 1119-49-9P **1124-53-4P**  
 1189-05-5P 1540-94-9P 5401-62-7P 25291-41-2P 29974-65-0P  
 29974-68-3P 39819-72-2P 76965-78-1P  
 (prepn. of, by reaction of haloalkane with acetonitrile bromonium  
 ion)

L19 ANSWER 8 OF 8 HCA COPYRIGHT 2001 ACS  
 ACCESSION NUMBER: 67:32956 HCA  
 TITLE: Use of polarography in polymer chemistry  
 AUTHOR(S): Bezuglyi, V. D.  
 SOURCE: Usp. Elektrokhim. Org. Soedin. (1966), 198-218  
 CODEN: 16INA6  
 DOCUMENT TYPE: Conference  
 LANGUAGE: Russian  
 AB Polarography was used for analysis of vinyl monomers and polymers. Working media used were 0.2 and 0.5M solns. of HCONMe<sub>2</sub> and MeOH. In all cases, redn. taking place at a dropping Hg **electrode** involved 1st-stage redn. of vinyl groups. Increasing the stretching of unsatd. bonds increases the ease of redn.; E<sub>1/2</sub> 4-vinylbiphenyl 2.13 v., E<sub>1/2</sub> styrene 2.34 v. The technique was used for detn. of rates of polymn. and activation energies of no. of polymers including polystyrene and poly(vinyltoluene).  
 IT 2918-67-4  
 (polarography of)  
 RN 2918-67-4 HCA  
 CN 2-Propenamide, N-cyclohexyl-2-methyl- (9CI) (CA INDEX NAME)



CC 35 (Synthetic High Polymers)  
 IT 79-41-4, analysis 80-62-6, analysis 97-63-2 97-88-1  
 100-42-5, analysis 100-43-6 100-69-6 140-76-1 716-89-2  
 769-25-5 826-74-4 827-54-3 1487-18-9 1611-83-2 1918-82-7  
 2210-24-4 2350-89-2 2782-23-2 2782-24-3 2918-67-4  
 2918-68-5 2918-69-6 2918-70-9 2918-71-0 2918-72-1  
 2918-75-4 2918-76-5 2918-77-6 2918-90-3 2918-91-4  
 2918-93-6 2918-94-7 3219-55-4 3937-22-2 3937-24-4  
 4040-29-3 4040-31-7 4040-34-0 4130-13-6 6928-98-9  
 10473-10-6  
 (polarography of)